SEQUENCE LISTING

<110> Nakagawa, Yasuko
Ono, Yuichi
Sakamoto, Yoshimasa
Mizuhara, Eri
Nakatani, Tomoya
Takai, Yoshimi

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POSTMITOTIC DOPAMINERGIC NEURON PRECURSOR CELLS

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Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly Ala Tyr Arg
        35                  40                  45
Gly Leu Val Gln Trp Thr Lys Asp Gly Leu Ala Leu Gly Gly Glu Arg
    50                  55                  60
Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ser Ala Ser
65                  70                  75                  80
Gly Gln His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala
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Ser Tyr Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala
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Gln Leu His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly
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Pro Ser Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg
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Ser Arg Gly Asp Ser Arg Pro Ala Pro Glu Leu Leu Trp Phe Arg Asp
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Gly Ile Arg Leu Asp Ala Ser Ser Phe His Gln Thr Thr Leu Lys Asp
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Lys Ala Thr Gly Thr Val Glu Asn Thr Leu Phe Leu Thr Pro Ser Ser
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His Asp Asp Gly Ala Thr Leu Ile Cys Arg Ala Arg Ser Gln Ala Leu
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Pro Thr Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro
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225                 230                 235                 240
Val Thr Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr
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Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg
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Leu Glu Val Val Ala Asp Ala Thr Phe Leu Thr Glu Pro Val Ser Cys
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Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu
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Val Leu Tyr Gly Pro Ile Leu Gln Ala Lys Pro Lys Ser Val Ser Val
305                 310                 315                 320
Asp Val Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro
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Ser Gly Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly
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Asp Tyr Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly
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Lys Ala Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala
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Glu Gly Phe Leu Glu Ala Gly Ser Leu Gly Arg Phe Leu Val Glu Ala
        435                 440                 445
Phe Pro Ala Pro Glu Val Glu Gly Gly Gln Gly Pro Gly Leu Ile Ser
    450                 455                 460
Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Thr Thr Gly Phe
465                 470                 475                 480
Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His
                485                 490                 495
Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Ala
            500                 505                 510
Ala Ser Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu
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Cys Cys Trp Arg His Gly Ser Leu Ser Lys Gln Lys Asn Leu Val Arg
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Ile Pro Gly Ser Ser Glu Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu
545                 550                 555                 560
Thr Gly Ser Ser Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser
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Asp Leu Val Leu Glu Glu Lys Glu Ala Leu Glu Thr Lys Asp Pro Thr
            580                 585                 590
Asn Gly Tyr Tyr Lys Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly
        595                 600                 605
Glu Ala Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Ile Gly
    610                 615                 620
Leu Pro Gly Thr Pro Thr Tyr Tyr Asp Phe Lys Pro His Leu Asp Leu
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Val Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr
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Pro His Pro Arg Ala Phe Thr Ser Tyr Met Lys Pro Thr Ser Phe Gly
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<212> PRT
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His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala Ser Tyr
        35                  40                  45
Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala Gln Leu
    50                  55                  60
His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly Pro Ser
65                  70                  75                  80
Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg Ser Arg
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Gly Asp Ser Arg Pro Ala Pro Glu Leu Leu Trp Phe Arg Asp Gly Ile
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Arg Leu Asp Ala Ser Ser Phe His Gln Thr Thr Leu Lys Asp Lys Ala
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Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro Met Val
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Thr Leu Ser Ala Glu Pro Gln Thr Val Gln Glu Gly Glu Lys Val Thr
            180                 185                 190
Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr Arg Trp
        195                 200                 205
Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg Leu Glu
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Val Val Ala Asp Ala Thr Phe Leu Thr Glu Pro Val Ser Cys Glu Val
225                 230                 235                 240
Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu Val Leu
                245                 250                 255
Tyr Gly Pro Ile Leu Gln Ala Lys Pro Lys Ser Val Ser Val Asp Val
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Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro Leu Pro
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Arg Ile Thr Trp Thr Arg Met Gly Gly Ser Gln Val Leu Ser Ser Gly
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Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly Asp Tyr
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Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly Lys Ala
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Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala Leu Gln
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Pro Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys Val Val
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Ala Pro Glu Val Glu Gly Gly Gln Gly Pro Gly Leu Ile Ser Val Leu
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His Ile Ser Gly Thr Gln Glu Ser Asp Phe Thr Thr Gly Phe Asn Cys
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Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His Leu Gly
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Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu Cys Cys
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Val Leu Glu Glu Lys Glu Ala Leu Glu Thr Lys Asp Pro Thr Asn Gly
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Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Ile Gly Leu Pro
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Gly Thr Pro Thr Tyr Tyr Asp Phe Lys Pro His Gln Asp Leu Val Pro
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Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr Pro His
        595                 600                 605
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        35   40   45
Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
    50   55   60
Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn
65   70   75   80
Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
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Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
            100   105   110
Arg Pro Ala Gln Leu His Val Leu Val Pro Pro Glu Ala Pro Gln Val
        115   120   125
Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
    130   135   140
Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Thr Pro Glu Leu Leu Trp
145   150   155   160
Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu
                165   170   175
Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr
            180   185   190
Pro Phe Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser
        195   200   205
Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln
    210   215   220
Tyr Pro Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu
225   230   235   240
Gly Glu Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val
                245   250   255
Thr Gly Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg
            260   265   270
Gly Pro Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro
        275   280   285
Val Ser Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr
    290   295   300
Ala Leu Asp Val Leu Phe Gly Pro Ile Leu Gln Ala Lys Pro Glu Pro
305   310   315   320
Val Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg
                325   330   335
Gly Asn Pro Leu Pro Arg Val Thr Trp Thr Arg Arg Gly Gly Ala Gln
            340   345   350
Val Leu Gly Ser Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu
        355   360   365
Asp Ala Gly Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu
    370   375   380
Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val
385   390   395   400
Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg

```
                405                 410                 415
Leu Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp
            420                 425                 430
Ser Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu
        435                 440                 445
Val Glu Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly
    450                 455                 460
Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser
465                 470                 475                 480
Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala
                485                 490                 495
Gln Ala Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val
            500                 505                 510
Ala Gly Val Ala Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly
        515                 520                 525
Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser
    530                 535                 540
Glu Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser
545                 550                 555                 560
Ser Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly
                565                 570                 575
Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Lys Gly
            580                 585                 590
Thr Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly
        595                 600                 605
Val Ser Val Ser Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe
    610                 615                 620
Leu Pro Pro Pro Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr
625                 630                 635                 640
Asp Phe Asn Pro His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg
                645                 650                 655
Ala Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser
            660                 665                 670
Tyr Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr
        675                 680                 685
Pro Pro Phe Pro Tyr Ala Ala Phe Pro Thr Pro Ser His Pro Arg Leu
    690                 695                 700
Gln Thr His Val
705
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<210> 7
<211> 2976
<212> DNA
<213> Homo sapiens

<400> 7
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aggaggcgtg cttgagagga agaagttgac gggaaggcca gtgcgacggc aaatctcgtg 180
aaccttgggg gacgaatgct caggatgcgg gtccccgccc tcctcgtcct cctcttctgc 240
ttcagaggga gagcaggccc gtcgccccat ttcctgcaac agccagagga cctggtggtg 300
ctgctggggg aggaagcccg gctgccgtgt gctctgggcg cctactgggg gctagttcag 360
tggactaaga gtgggctggc cctaggggc caaagggacc taccagggtg gtcccggtac 420
tggatatcag ggaatgcagc caatggccag catgacctcc acattaggcc cgtggagcta 480
gaggatgaag catcatatga atgtcaggct acacaagcag gcctccgctc cagaccagcc 540
caactgcacg tgctggtccc cccagaagcc ccccaggtgc tgggcggccc ctctgtgtct 600
ctggttgctg gagttcctgc gaacctgaca tgtcggagcc gtggggatgc ccgccctgcc 660
cctgaattgc tgtggttccg agatggggtc ctgttggatg gagccacctt ccatcagacc 720
ctgctgaagg aagggacccc tgggtcagtg gagagcacct taaccctgac ccccttcag 780
ccatgatgat ggagccacct ttgtctgccg ggcccggagc caggccctgc ccacaggaag 840

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agacacagct atcacactga gcctgcagta ccccccagag gtgactctgt ctgcttcgcc 900
acacactgtg caggagggag agaaggtcat tttcctgtgc caggccacag cccagcctcc 960
tgtcacaggc tacaggtggg caaaaggggg ctctccggtg ctcggggccc gcgggccaag 1020
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cgccgtgggt agcgccaacc gcagtactgc gctggatgtg ctgtttgggc cgattctgca 1140
ggcaaagccg gagcccgtgt ccgtggacgt gggggaagac gcttccttca gctgcgcctg 1200
gcgcgggaac ccgcttccac gggtaacctg gacccgccgc ggtggcgcgc aggtgctggg 1260
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gaccaaggac ccaaccaacg gttactacaa ggtccgagga gtcagtgtga gcctgagcct 2040
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tggccaccat cttgatttta ctttccttaa agacacagaa agacttggac ccaaggagtg 2880
gggatacagt gagaattacc actgttgggg caaaatattg ggataaaaat atttatgttt 2940
aataataaaa aaaagtcaaa aaaaaaaaaa aaaaaa                          2976
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<210> 8
<211> 196
<212> PRT
<213> Homo sapiens

<400> 8

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Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
 1               5                  10                  15
Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp
            20                  25                  30
Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly
        35                  40                  45
Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
    50                  55                  60
Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn
65                  70                  75                  80
Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
                85                  90                  95
Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
            100                 105                 110
Arg Pro Ala Gln Leu His Val Leu Val Pro Pro Glu Ala Pro Gln Val
        115                 120                 125
Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
    130                 135                 140
```

```
Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Ala Pro Glu Leu Leu Trp
145                 150                 155                 160
Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu
                165                 170                 175
Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr
            180                 185                 190
Pro Phe Gln Pro
        195
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<210> 9
<211> 1532
<212> DNA
<213> Homo sapiens

<400> 9
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ctccgggcca gggtgacagg aggcgtgctt gagaggaaga agttgacggg aaggccagtg 180
cgacggcaaa tctcgtgaac cttgggggac gaatgctcag gatgcgggtc cccgccctcc 240
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cagaggacct ggtggtgctg ctgggcgagg gaggtgccca ggccagcctg ggccgtagag 360
cctcagcctc tttctccgag caaaagaacc tgatgcgaat ccctggcagc agcgacggct 420
ccagttcacg aggtcctgaa gaagaggaga caggcagccg cgaggaccgg ggccccattg 480
tgcacactga ccacagtgat ctggttctgg aggaggaagg gactctggag accaaggacc 540
caaccaacgg ttactacaag gtccgaggag tcagtgtgag cctgagcctt ggcgaagccc 600
ctggaggagg tctcttcctg ccaccaccct ccccccttgg gcccccaggg acccctacct 660
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caggctctct caccacaccc caccctcgag ctttcaccag ctacatcaaa cccacatcct 780
ttgggccccc agatctggcc cccgggactc ccccttccc atatgctgcc ttccccacac 840
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ctccaacttg ccataatgga ttgttctgat ttctgaggag ccaggacaag ttggcgacct 960
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ttgattttac tttccttaaa gactcagaaa gacttggacc caaggagtgg ggatacagtg 1440
agaattacca ctgttggggc aaaatattgg gataaaaata tttatgttta ataataaaaa 1500
aaagtcaaag aggcaaaaaa aaaaaaaaaa aa                                1532
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<210> 10
<211> 219
<212> PRT
<213> Homo sapiens

<400> 10
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Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
 1               5                  10                  15
Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp
            20                  25                  30
Leu Val Val Leu Leu Gly Glu Gly Gly Ala Gln Ala Ser Leu Gly Arg
        35                  40                  45
Arg Ala Ser Ala Ser Phe Ser Glu Gln Lys Asn Leu Met Arg Ile Pro
    50                  55                  60
Gly Ser Ser Asp Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu Glu Thr
65                  70                  75                  80
Gly Ser Arg Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser Asp
                85                  90                  95
```

```
Leu Val Leu Glu Glu Glu Gly Thr Leu Glu Thr Lys Asp Pro Thr Asn
            100                 105                 110
Gly Tyr Tyr Lys Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly Glu
        115                 120                 125
Ala Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Leu Gly Pro
    130                 135                 140
Pro Gly Thr Pro Thr Phe Tyr Asp Phe Asn Pro His Leu Gly Met Val
145                 150                 155                 160
Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr Pro
                165                 170                 175
His Pro Arg Ala Phe Thr Ser Tyr Ile Lys Pro Thr Ser Phe Gly Pro
            180                 185                 190
Pro Asp Leu Ala Pro Gly Thr Pro Pro Phe Pro Tyr Ala Ala Phe Pro
        195                 200                 205
Thr Pro Ser His Pro Arg Leu Gln Thr His Val
    210                 215
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<210> 11
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 11
cagctccaca acctacatca ttccgt 26

<210> 12
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 12

acggaatgat gt 12

<210> 13
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 13
gtccatcttc tctctgagac tctggt 26

<210> 14
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 14

accagagtct ca 12

<210> 15
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 15
ctgatgggtg tcttctgtga gtgtgt 26

<210> 16
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 16
acacactcac ag 12

<210> 17
<211> 26
<212> DNA
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<220>
<223> Adapter for cDNA amplification

<400> 17
ccagcatcga gaatcagtgt gacagt 26

<210> 18
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<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 18
actgtcacac tg 12

<210> 19
<211> 26
<212> DNA
<213> Artificial Sequence

<220>

<223> Adapter for cDNA amplification

<400> 19
gtcgatgaac ttcgactgtc gatcgt 26

<210> 20
<211> 12

<212> DNA
<213> Artificial Sequence

<220>
<223> Adapter for cDNA amplification

<400> 20
acgatcgaca gt 12

<210> 21
<211> 26
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<220>
<223> Primer for RACE method

<400> 21
ggctttacac tttatgcttc cggctc 26

<210> 22
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for RACE method

<400> 22
cagctatgac catgattacg ccaagc 26

<210> 23
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for RACE method

<400> 23
aggcgattaa gttgggtaac gccagg 26

<210> 24
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for RACE method

<400> 24
ccagtcacga cgttgtaaaa cgacgg 26

<210> 25
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for RACE method

<400> 25
cttcccgtat gctaccttgt ctccac 26

<210> 26
<211> 26
<212> DNA
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<220>
<223> Primer for RACE method

<400> 26
tccatctctc caagtgaagg gtcttg 26

<210> 27
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<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for RACE method

<400> 27
ccaacagtcc tgcatgcttg taatga 26

<210> 28
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer for RACE method

<400> 28
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